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Animals and attachment theory

By

Sam Carr and Ben Rockett, University of Bath

In press, *Society and Animals*

Abstract

The study of animals in the context of attachment theory is steadily growing. This paper sought to pull together recent literature in order to review, summarize, and discuss (a) animals as attachment figures, (b) conceptualisation of attachment quality in human-animal bonds, and (c) the role of animals in assisting the development of human-human attachment.

Keywords: attachment, human-animal bonds, relationships

Introduction

Scholars have begun to employ attachment theory (Bowlby, 1969, 1973) as a conceptual framework for exploring and discussing the nature of the relationships that humans share with animals. In relation to this, key questions have arisen, centred upon (a) the proposition that animals are able to satisfy human attachment needs, reflecting *attachment figures* in their own right, (b) whether we might employ similar models to human attachment research when seeking to explore the specific nature (e.g., dimensions and manifestations of insecurity) of the attachment between humans and animals, and (c) the role of animals (direct and indirect) in working with human attachment issues in therapeutic and care settings. However, there are numerous theoretical complexities and nuances that cloud the literature in this area of research. Our objectives in this paper are to pull together current lines of thinking and review, discuss, and summarise the literature in relation to the above.

Attachment theory

One of the central tenets of attachment theory is the notion that early childhood lays the foundations for the development of personality through the lifespan and “...that a secure attachment to a caregiver is one of the first and most basic needs in an infant’s life” (Beck & Madresh, 2008, p.43). The theory has developed from Bowlby’s (1969, 1973) contention that the young of species with an extended period of dependence are biologically motivated to establish and maintain selective bonds with discriminate figures in their environment capable of providing care and nurturing into adulthood.

One of the key features of Bowlby's (1973, 1980) theory is an innate attachment system. Bretherton (1985) has described the attachment system as a "psychological organization" within infants that has the predominant goal of regulating behaviours designed to maintain or initiate proximity and contact with discriminate *attachment figures*. Bowlby (1969) proposed that the attachment system is most active in situations where infants are threatened, under stress, frightened, fatigued, or ill and that it is "toned down" when attachment figures provide needed comfort.

Over time, through continual transactions with attachment figures, Bowlby (1969, 1973) hypothesised that children begin to develop an internal working model that reflects a generalised mental representation of the world, significant others, and the self in relation to these significant others. Bowlby suggested that such working models guide the child in formulating expectations and behaviour surrounding caregiver availability and responsiveness. The theory suggests that elements of self-concept and self-perception are also linked to the internal working models that begin to unfold as a consequence of caregiver responsiveness to expressions of attachment needs.

Attachment figures

Hazan and Shaver (1994) have argued that most modern attachment researchers would agree that the majority of human infants do become attached to a primary caregiver (although it is generally accepted that this is not necessarily always the mother) but this does not preclude the possibility that infants and children might form multiple secondary attachment bonds with significant others and there is no doubt that they do. Bretherton (1985) outlines that in the most technical sense the term "attachment figure" is referring to the

use of a caregiver for the functions of a *secure base*, a *safe haven*, and *proximity maintenance*. For Hazan and Shaver (1994), when a bond with a significant other satisfies these criteria they are likely to form one of multiple attachment bonds that constitute an attachment “hierarchy” or “network” of individuals that are each perceived to serve attachment functions (although it is likely that they do not all have the same relative degree of importance with regards to such functions). Important points of debate in relation to multiple attachment relationships relate to whether or not an individual having multiple attachment figures implies that all of these relationships will necessarily contribute to an individual’s internal working model of attachment (or whether individuals might develop multiple internal working models of attachment).

Adult attachment

Of particular significance is Bowlby’s (1979) contention that early relationship experiences provide a model for how subsequent relationships are played out. In this sense, the expectations of the self and others that constitute central elements of internal working models of attachment will undoubtedly play a key role in constructing new relationships in adulthood. Hence, researchers (e.g., Bartholomew, 1990; Shaver, Collins, & Clark, 1996) have suggested that the long-term effects of early attachment experiences are predominantly a function of the persistence of internal working models into adulthood. However, it is also necessary that the significant attachment bonds that played a central role in initial development of attachment working models in childhood are gradually (but never entirely) relinquished and that additional affectional bonds are formed with close significant others through adulthood. These new affectional bonds may also serve to modify and rework internal working models over time.

As Bartholomew and Shaver (1998, p. 41) have suggested, “...as a person moves along...increasingly differentiated [life] pathways, it is quite possible for internal working models of relationships with parents to diverge from working models of romantic relationships.” Hence, the complexity surrounding internal working models of attachment is likely to increase significantly with progression into adulthood. Bowlby outlined how the goal of the attachment system in adulthood (i.e., a *perceived* availability of the attachment figure) depends more significantly on cognitive factors such as the *belief* that lines of communication are open, the *perception* that physical accessibility exists if need be, and *trust* that the attachment figure will be available if necessary.

Animals as attachment figures

Theoretical arguments have been forwarded in support of the idea that humans can develop attachments to buildings, places, or inanimate objects (Nedelisky & Steele, 2009), as well as to god or religious leaders (Bradshaw, Ellison & Marcum, 2010). In relation to animals, a plethora of literature exists in support of the notion that humans can also form strong attachments to animal companions. However, one of the major problems with the literature in this area has been the lack of theoretical consistency in relation to the ideas, concepts, and definitions that underpin it (Beck & Madresh, 2008; Crawford, Worsham, & Swinehart, 2006).

A major benefit of employing attachment theory in the exploration of human-animal bonds is that it provides researchers with a *conceptual underpinning* (e.g., Beck & Madresh, 2008; Kurdek, 2008, 2009; Kwong & Bartholomew, 2011; Noonan, 2008; Woodward & Bauer, 2007; Zilcha-Mano, Mikulincer, & Shaver, 2011). For example, the theory offers a clear conceptual

definition of what actually constitutes an *attachment* relationship for humans. As discussed earlier, attachment theorists (Hazan & Zeifman, 1994) forward a clear taxonomy that helps to distinguish true attachment relationships from other close bonds (that are not necessarily attachment bonds per se). Specifically, attachment figures should be (a) dependable sources of comfort (a secure base), (b) sought in times of genuine distress (a safe haven), (c) have their physical presence result in enjoyment and a sense of safety (proximity maintenance) and (d) have their physical absence illicit a sense of distress (separation distress) (Kurdek, 2008).

In relation to these criteria, researchers (e.g., Beck & Madresh, 2008; Kurdek, 2008, 2009) have sought to provide evidence that humans do appear to conceptualise animal relationships as attachment bonds. For example, Kurdek (2009) tapped into the extent to which dog keepers' *self-reported* feelings that their pet was a safe haven (e.g., "When I am feeling bad and need a boost, I turn to my dog to help me feel better"), secure base (e.g., "I can count on my dog to be there for me"), provoked a desire for proximity maintenance (e.g., "I like having my dog near me"), and separation distress (e.g., "I miss my dog when I am away from him or her") by utilising a self-report measure specifically developed for this purpose (Kurdek, 2008). His results suggested that pets certainly seemed to satisfy these attachment functions with mean values well above the midpoint of the subscales.

However, it has been suggested that the best candidates for an attachment bond are relationships in which *all* of the above functions (which leaves questions related to what we consider bonds that satisfy only *some* of the functions to be) are satisfied (Fraley & Shaver, 2000). The most salient

attachment function reported to pet dogs in Kurdek's (2009) study was proximity seeking and the least salient was safe haven. Hence, it could be suggested that keepers are less likely to use their pet dogs as emotional safe houses in times of genuine distress (which may be a cornerstone of an attachment figure in attachment theory) than they are to simply enjoy being in close proximity to them (hence, perhaps dogs did not serve *all* of the functions needed to qualify as attachment figures, lacking true safe haven functioning). However, Kurdek (2009) also explored this possibility by comparing the extent to which owners felt that they turned to their dogs as a safe haven *when compared* to other key attachment figures such as mothers, fathers, siblings, best friends, romantic partners, and children. Results suggested that dogs were turned to more significantly than all figures apart from romantic partners and that this was moderated by both person (e.g., being male or widowed) and animal (e.g., extent to which animals satisfied their keeper's relatedness needs) characteristics. Kurdek (2009) concluded that his data are evidence that humans can form attachment bonds with animals in a manner that is consistent with the literature on attachment theory.

Kurdek's (2009) data suggest that animals seem to satisfy the functions of an attachment figure but that the extent to which they do is likely to be dependent upon person and animal characteristics. Kwong and Bartholomew's (2011) more recent data supported this assumption and explored assistance dogs as attachment figures in a sample of individuals with various disabilities. The study employed thematic methods to analyze semi-structured interviews with participants about their relationships with assistance dogs. Findings suggested that the animals were strong *sources of comfort* during distressing

times and they reported behaviour that parallels what Hazan and Zeifman (1994) describe as safe-haven components, even suggesting that “...in many cases, the dogs appeared to be so attuned with their owners’ emotions that the owners did not need to seek out the support” (p.426). Data also showed that for just over half of the participants, the assistance dog also fulfilled the role of a *secure base*. Participants “...described how the security and stability provided by their assistance dog provided a foundation for confidence and exploration” (p.427). Overall, the research demonstrated that animals seem to be able to satisfactorily fulfil attachment figure functions. However, the researchers make reference to the fact that this may be particularly apparent in their investigation because their sample possessed specific characteristics (e.g., a disability requiring animal-related assistance) that increased the likelihood that the human-animal bond might develop into something that reflects an attachment bond.

Whilst Kwong and Bartholomew (2011) utilised qualitative methods, much research into human-animal attachment bonds has employed self-report measures to verify that a given relationship fulfils attachment functions. It is worthy of discussion that relying on self-reports of who individuals claim to be their attachment figures and satisfy their attachment functions in the manner of Kurdek’s (2009) investigation is not without its pitfalls. For example, such self-reports rely heavily on the assumption that who individuals *claim* they turn to in times of distress or seek proximity to will correlate with who they *actually* turn to when genuine distress arises (or indeed who they *would like* to turn to). Some authors have attempted to get around this issue by developing measures of attachment figure status that include assessments of who individuals would like

to use as a secure base or safe haven and whom they actually use (e.g., Trinke & Bartholomew, 1997). It will be important to gauge the extent to which animal attachment figures are being used in the absence of human figures that individuals “would like to” turn to but for some reason feel that they cannot.

The issue is complicated further still by recent lines of research that have shed light on the important properties of the attachment system in adults by employing a subliminal priming paradigm. Mikulincer and his colleagues (e.g., Mikulincer, Birnbaum, Woddis & Nachmias, 2000; Mikulincer, Gillath & Shaver, 2002) have utilized this paradigm, reasoning that detection of threat on an *unconscious* level should automatically heighten cognitive accessibility of thoughts related to attachment figures. Subsequently, researchers have been able to explore whether there is a subconscious tendency to turn to specific attachment figures when threatened on a subliminal level.

For example, Mikulincer et al. (2002) asked participants to provide the names of (a) individuals they felt served attachment functions (i.e., proximity-seeking, safe-haven, and secure-base functions) via self-report, (b) individuals that were close but did not serve attachment functions, (c) individuals they knew but with whom they were not close, and (d) individuals that they did not know at all. Participants then completed a lexical decision task and Stroop color-naming task under conditions of threat or non-threat, with the relative accessibility of the names of attachment figures, close others, known others, and unknown others being examined. Results revealed that subliminal priming (20-ms exposure) with threatening words as opposed to neutral words lead to faster identification of individuals reported to serve attachment functions. This was not the case for close others who did not serve attachment functions, known others,

or unknown others and the effect was independent of attachment style characteristics.

Carr and Landau (2012) extended the above investigation and sought to explore how self-reported differences between attachment figures related to variation in their cognitive accessibility in response to subliminal threat primes. The data from this study raised the possibility that for some individuals conscious evaluations of who their primary attachment figures appeared to be (according to Trinke & Bartholomew's, 1997 measure of attachment figures) did not provide an accurate indication of the significant others that were *unconsciously* considered to be of primary importance (i.e., those most cognitively accessible) when faced with threatening contexts subliminally. Specifically, participants showed increased accessibility to mothers' names in response to threat primes and this was even identified in individuals who did not *consciously* consider mothers to occupy a primary position in their attachment hierarchy. The study therefore supported recent arguments in the attachment literature suggesting that self-reports of attachment-related processes (such as *who* attachment figures are) may be disconnected from subconscious responses, perhaps due to defensive processes biasing self-reports on a conscious level (Bernier, Larose & Boivin, 2007). Such studies help to appreciate the complexities and intricacies involved in the study of how attachment figures are *identified* in the literature and it may be important to explore how attachment to animal companions compares to human attachment figures in the context of these newer paradigms (in addition to the self-report techniques already explored).

Zilcha-Mano, Mikulincer and Shaver (in press) also utilised interesting and innovative methodology to support the notion that animals might be capable of fulfilling *safe-haven* and *secure-base* functions. Specifically, the researchers primed attachment responses by getting participants to perform distress-eliciting tasks, measuring levels of distress through blood pressure readings. The study found that physical *and* cognitive presence of companion animals was enough to heighten self-confidence, lower distress and increase task-performance when compared to the total absence of participants' companion animals. These results provide evidence that for some people, animals are capable of providing both *secure-base* and *safe-haven* features of an attachment relationship. However, it is particularly significant that this is demonstrated by moving beyond a self-report paradigm, utilising physiological indicators of distress *and* objective performance in a well thought-out design.

Attachment theory as a way of conceptualising the quality of human-animal bonds

A central assumption of attachment theory is that individual differences in the *pattern* and *tone* of a given attachment relationship will give rise to the development of different attachment characteristics and internal representations that will shape how the relationship (and psychological factors outside of the relationship) will be experienced (Hazan & Shaver, 1994). From one perspective, researchers have identified that the quality of attachment relationships might best be reflected according to a two dimensional model of individual differences (e.g. Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Feeney, Noller, & Hanrahan, 1994; Fraley & Waller, 1998). The predominant premise from this perspective is that systematic variation in adult attachment differences tends to centre around two major dimensions of

attachment which have been labelled *attachment-related anxiety* (concern about the availability and responsiveness of partners in close relationships) and *attachment-related avoidance* (discomfort with reliance upon others for attachment related purposes) (Brennan et al., 1998). These dimensions have been described by Shaver and Mikulincer (2002, p. 135) as “...best conceptualised as regions in a two-dimensional space that is conceptually parallel to the space defined...in Ainsworth et al.’s (1978) summary of research on infant-mother attachment.”

Specifically, low levels of both attachment-related anxiety and avoidance correspond to a “secure” classification according to Ainsworth’s system. High levels of attachment-related anxiety and low levels of avoidance are conceptually consistent with an insecure-anxious classification according to Ainsworth’s taxonomy. The region of space where attachment-related anxiety is low and avoidance is high is conceptually parallel to Ainsworth’s insecure-avoidance. However, with regards to this “avoidant” area of the conceptualisation researchers (e.g., Bartholomew & Horowitz, 1991; Bifulco, Moran, Ball & Bernazzi, 2002) have identified that in adult research there appears to be a conceptual distinction between dismissive avoidance (low levels of attachment related anxiety and high levels of avoidance) and fearful avoidant (high levels of both anxiety and avoidance) styles of attachment. Variation in these two dimensions of attachment has been captured by self-report measures such as the Experiences in Close Relationships Questionnaire (ECR-R, Fraley, Waller, & Brennan, 2000) and the Relationship Questionnaire (RQ, Bartholomew & Horowitz, 1991).

Following suit, human-animal researchers in attachment have sought to explore this popular model in attachment research in the context of attachment to animals. For example, Beck and Madresh (2008) adapted both the RQ and ECR-R questionnaires to reflect relationships with pets as opposed to human partners. Their research identified some important points of note: (a) it appeared that viewing pet relationships in accordance with these models of attachment relationships in humans was a statistically viable option, (b) it appeared that pet keepers' self-reports of the quality of the attachment bond that they shared with their pet was generally experienced as a more secure bond than their relationship with their romantic partner on all levels, and (c) that there was only a weak correlation between quality of relationship with pet and that experienced with romantic partners (providing some support for the idea that there may be personality-related consistency across relationships but also that relationship-specific factors will also colour attachment security).

Zilcha-Mano et al. (2011) also followed this line of research in developing the Pet Attachment Questionnaire (PAQ) as another way of assessing the attachment quality of human-pet attachment according to the two dimensional model discussed above. They also identified that the orthogonal dimensions of attachment-related anxiety and avoidance were a conceptually and statistically sound way of examining the human-pet attachment relationship. Subsequently, they identified: (a) that PAQ anxiety was positively associated with anxiety in the context of close human relationships, (b) that PAQ avoidance was not associated with avoidance in close human relationships, (c) that PAQ anxiety scores were associated with poor mental health (independently of human relationship

attachment and personality traits), and (d) that PAQ scores were meaningfully related to reactions to the loss of a pet.

Taken together, the above two studies are certainly evidence that it may be conceptually viable to examine attachment to animals in the context of attachment theory. Some interesting questions that arise relate to issues such as what exactly the “more secure” pet relationships (compared to human attachment bonds) actually reflect in studies such as Beck and Madresh (2008). For example, as the authors contend, this may be a reflection that people are more willing to tolerate higher levels of insecurity in human relationships than they are with their pets. It may be easier to turn our backs on an insecure pet relationship than an insecure romantic relationship. Furthermore, it is interesting to discuss the lack of correlation between attachment avoidance in the context of pet relationships and close human relationships identified by Zilcha-Mano et al. (2011). This hints at the suggestion that those with highly avoidant human attachment bonds are not necessarily predisposed to form avoidant attachments with animals. Such an assertion could have important therapeutic value. For example, it may be that animals are able to circumvent the relationship blocks linked to an insecure working model of attachment (Zasloff, 1996). The core of such a working-model may consist of the perceptions that other *people* are untrustworthy or unreliable, uncaring and selfish, but animals are not subject to these pervasive assumptions. Animals may therefore be able to enter an insecure individual’s world with greater ease, owing to their open, unthreatening, attention seeking natures that offer, as well as take love, affection and positivity. Keil’s (1998) study provided some support for this assumption in an elderly population, indicating a positive association between (a) loneliness

and stress, and (b) attachment to animals. Furthermore, this correlation was stronger when individuals did not have an additional human attachment figure. Such findings suggest that animals are perhaps particularly likely to become compensatory attachment figures in the absence of human figures.

Human-animal relationships as facilitators of attachment-related changes in therapeutic contexts

Hazan and Shaver (1994, p. 70) have outlined the following view with regards to the stability of models of attachment:

“Bowlby (1973) explicitly stated...that working models of attachment are gradually constructed out of experiences throughout infancy, childhood, and adolescence. Only then do they become relatively resistant to, but still not impervious to, change. Our view is that they are sufficiently stable to warrant consideration and study.”

Implicit in the above quote is a sense that models of attachment seem to reflect both a degree of malleability *and* a degree of consistency. This is consistent with Bowlby's acknowledgement that working models of attachment can change in accordance with an individual's experiences. Indeed, Bowlby espoused a fundamental therapeutic principle whereby the therapist would gradually become an attachment figure for the patient, allowing them to slowly build the trust needed in order for the therapist to be viewed as a secure base (Ainsworth, 1993). The formulation of such a secure base in the therapeutic setting allows patients to explore entrenched working models of attachment and related expectations of others and the self and to gradually “rework” and “revise” such models so that they are more in line with realistic present circumstances

(Ainsworth, 1993). Clearly, it is therefore feasible to suggest that attachment researchers view the working model of attachment as amenable to modification based upon experience and this is an important therapeutic principle. In this section of our paper we forward arguments about human-animal relationships in this context.

Bowlby believed that therapists would be viewed as attachment figures on a subconscious level. For some individuals who have had particularly harrowing familial experiences, simply walking into a therapist's office may arouse powerful emotions and anxiety related to the closeness of the relationship that therapy engenders. However, through therapy “the client has the opportunity to have these patterns brought to their attention, reappraise their functionality and learn new methods of regulating affect. But how does one actually facilitate this process?” (Sonkin, 2005). For Sonkin, the therapeutic task from an attachment perspective is for therapist and client to develop an emotional attunement, where the client feels heard, understood, and accepted. The role of human-animal relationships in this process should not be underestimated.

In one sense, we have already discussed the potential for animals to serve as attachment figures in their own rights, and for humans to develop “secure” relationships with animals that may develop quite independently of insecure attachment relationships with close human others (e.g., Zilcha-Mano et al., 2011). This has important therapeutic value in the sense that animal relationships may well serve a “compensatory” or “supplementary” function for many individuals whose human bonds are severely lacking. For Bridger (1970), whose research focused on the psychological notion of transitions in relation to the therapeutic

alliance, the interesting notion of a pet is how it can occupy a position between inanimate and animate, making it a rich source of relating (which he called a “transitional being”). The idea of a transitional being has important consequences for therapeutic settings (a) because of what it *initiates* for individuals and (b) because of what they *project* into it. What it can *initiate* are *fresh* approaches to *old* problems because it has a special gift for behaving without intention and for listening without speaking. In this way, attachment-related dynamics ingrained from human-human interactions can be challenged and reworked (internal changes). With regards to *projection*, it may also provide a tangential mirror of dynamics and interactions carried forth from human-human bonds. That is, individuals may initially *project* some of the features of deeply ingrained human-human relationships onto their animal companions (providing insight into relational patterns that are carried forward). However, beyond these more “direct” examples we also feel that animal relationships might serve as a lubricant in the construction of a therapeutic alliance (Parish-Plass, 2008) between a potential other and a given client.

Earlier, we outlined how Bowlby (1973) saw a *perceived* availability of potential attachment figures to be a critical psychological attainment in the development of a secure internalisation. Accordingly, this psychological attainment in the context of a therapeutic alliance depends heavily on cognitive factors such as the belief that lines of communication are open, the perception that emotional accessibility exists if need be, and trust that the other will be available and able to provide support if necessary. How individuals construct this perception of the other in a therapeutic setting is likely to be complex and

may depend not only on direct experiences with the other but also on indirect encounters.

For example, animals may facilitate a therapist-client relationship by reworking an individual's perceptions of the therapist's actions and intentions on a relational level, *based upon* observing their interactions with an animal (Noonan, 2008). Tomasello (1999, p. 5) has suggested that human social learning is made possible by "the ability of individuals to understand conspecifics as beings *like themselves* who have intentional and mental lives like their own" (something Parish-Plass (2008) has highlighted with young children and animals; children strongly identify with animals meaning that therapist / carer interactions with an animal are related back to the self). Gaskins and Paradise (2010) have suggested that the ability to evaluate the mental state and knowledge of others begins around the age of four and leads to the anticipation and prediction of behaviour in social interaction. Such anticipation and prediction based upon observation of how a therapist interacts with an animal companion may be important.

In the Animal Assisted Therapy (AAT) literature, Parish-Plass (2008) highlighted some critical features that may facilitate and support the development of therapist-client relationships in this way. In short, when individuals develop an insecure working model of attachment they adopt a negative internal representation, fearing rejection and inconsistent responses from attachment figures and adopting a negative sense of self in attachment contexts (Duchesne & Larose, 2007). Florian, Mikulincer, and Bucholtz (1995) have suggested that insecurely attached individuals, who grow up with a sense of uncertainty surrounding the availability of attachment figures (Ainsworth,

Blehar, Waters & Wall, 1978), are likely to develop a generalized belief in a "non-supportive world" (p. 666). Through therapeutic avenues, such individuals are often afforded an opportunity to "rework" or challenge the perceptions of others they have developed, learning positive models of the 'other.' Through observation of the interactions of a consistent, supportive human being with an animal, it is suggested that 'observers' are often initially inspired to trust the human other (Noonan, 2008). This has also been described as a 'softening of the environment' (Levinson, 1984) that reduces some of the anxiety around a direct human-human interaction for individuals with such strongly ingrained attachment-related models. For example, as we alluded to earlier with Parish-Plass' (2008) research findings, Noonan (2008) suggests that clients of therapists who utilise an animal presence invariably put themselves in the position of the animal (when observing interactions between therapist and animal) to interpret the therapist's likely responses. That is, observing one's therapist "caring" for an animal who is expressing a need for affection allows one to hypothesise with more confidence that the therapist might be capable of offering the same in one's own interaction with them and to process the cognitions and feelings that this arouses. Subsequently, they are able to work through feelings of being tolerated, rejected, scolded or embraced, were they to be in the animal's position. In time, this can enable a "working connection" (Parish-Plass, 2008, p.17) with the "observed human other" through which future development of the human-human relationship can occur. Essentially, if the "other" is caring toward the animal then the child may be witness to "incongruent emotions and behaviours" (incongruent with their dominant model of attachment) that challenge learned expectations and influence emotional and

behavioural responses to their own feelings and the feelings and actions of the other (Boggs, Tedeschi & Ascione, 2011; Noonan, 2008).

A central feature of working models of attachment relates to “...whether or not the self is judged to be the sort of person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful way” (Bowlby, 1973, p. 238). Sharing a living space alongside an animal with repeated interactions and experiences has also been linked to an increase in an individual’s self-esteem (Boggs et al, 2011). Learning how to love and be loved, and recognising that others ‘need’ and ‘want’ you, has been found to lead to feelings of elevated importance, and self-worth. Through increasing self-esteem by being with an animal (Fine, 2000; Messent, 1983; Parish-Plass, 2008; Sable, 1995; Sanders, 1999; Serpell, 1983) it is theoretically logical to suggest that an individual may develop feelings of being worthy of love and of deserving empathy (Boggs et al, 2011). Due to elevations in self-esteem individuals are also more likely to be perceived positively by others and thus a positive, pro-social challenge to existing preconceptions could further enhance the prospects of attachment models being reworked.

Conclusion

We believe that there are theoretical arguments and empirical evidence in support of the notion that attachment theory offers a valuable framework within which to structure examination of human-animal relationship studies. We also believe that by extending the attachment literature into the human-animal domain much can be learned that will develop our knowledge of human attachment per se. However, this area of research is in its infancy and there are

some fascinating and important issues and questions that are ripe for further investigation.

For example, we discussed in some detail the idea that animals might qualify as attachment figures in the context of Bowlby's framework (e.g., Kurdek, 2009) and suggested that there is evidence that under certain circumstances it appears that *they can*. The idea that humans are able to form attachments with animals that are in many ways equivalent to exclusively human attachment bonds raises interesting issues for discussion. The fact that some humans seem to relate to animals as attachment figures raises questions about what attachment figures *need to possess* to enable human beings to form an attachment. Previous animal researchers (e.g., Beck & Madresh, 2008; Bonas, McNicholas, & Collis, 2000) have suggested that for some aspects of support (albeit non-attachment-related support) dogs are viewed as superior to human companions, whereas for other aspects dogs fall short. Furthermore, cats have been seen as less supportive than dogs but more supportive than other types of pets (Zasloff, 1996). From an attachment perspective, detailed and intricate research can enable us to begin to answer questions related to what it might be about certain animals that makes them more likely to meet attachment needs/satisfy attachment figure functions than other animals, or to be viewed as secure attachment figures. The characteristics these animals possess may help us to begin to isolate some of the key partner-related features necessary for an animal to be internalised as an attachment figure.

Furthermore, the fact that there may be important predisposing person and animal characteristics that make the formation of a human-animal attachment bond more likely is also worthy of discussion. In Kurdek's (2009)

investigation it was noted that factors such as being male, widowed, being highly involved with the care of a pet, and discomfort with self-disclosure moderated the likelihood that a dog would be viewed as an attachment figure for owners. Coupled with the idea that different animals may possess different characteristics that facilitate attachment formation, this raises interesting questions about the specific conditions under which human-animal attachment bond formation might arise. Stambach and Turner (1999) suggested that attachment to animals might arise for *certain people in certain circumstances* and future research is perhaps advised to consider these variables of individual and circumstantial difference. It is important to explore further the circumstances under which such bonds are likely to arise and the relative importance of such bonds (in comparison to human attachments) in terms of factors such as their power to regulate psychological experience (Zilcha-Mano et al., 2011), physiological indicators of distress (Zilcha-Mano et al., in press), and their apparent subconscious internalisation (Carr and Landau, 2012).

Finally, it is also important to move beyond simple exploration of animals as attachment figures in their own right to an examination of the possibility that human-animal relationships might also have enormous therapeutic potential in the sense that they might help to “lubricate” the formation of attachment-like relationships in the therapist-client setting. Future research would be well advised to explore (a) “if” such an assertion seems to be supported empirically, and (b) if it does, how exactly does such lubrication seem to take effect.

References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Ainsworth, M. (1993). Some considerations regarding theory and assessment relevant to attachments beyond infancy. In Greenburg, M., Cicchetti, D. and Cummings, E.M. (Eds.), *Attachment in the pre-school years: Theory, research, and intervention* (pp. 463-468). Chicago and London: University of Chicago Press.
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships*, 7, 147-178.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226-244.
- Bartholomew, K. & Shaver, P.R. (1998). Methods of assessing adult attachment: Do they converge? In J. A. Simpson and W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 25-45). New York: Guilford Press.
- Beck, L., & Madresh, E. (2008). Romantic Partners and Four Legged Friends: An

- Extension of Attachment Theory to Relationships with Pets. *Anthrozoos*, 21, 43-56.
- Bernier, A., Larose, S. & Boivin, M. (2007). Individual differences in adult attachment: Disentangling two assessment traditions. *European Journal of Developmental Psychology*, 4, 220–238.
- Bifulco, A., Moran, P.M., Ball, C. & Bernazzi, O. (2002). Adult attachment style 1: Its relationship to clinical depression. *Social Psychiatry and Psychiatric Epidemiology*, 37, 50-59.
- Boggs, J., Tedeschi, P., & Ascione, F. (2011). Animal assisted approached to child and adolescent mental health. In C.L. Norton (Ed.), *Innovative Interventions in Child and Adolescent Mental Health* (pp. 96-108). Routledge: New York.
- Bonas, S., McNicholas, J., & Collis, G. (2000). Pets in the network of family relationships: An empirical study. In A.L. Poderscek, E.S. Paul and J.S. Serpell (Eds.), *Companion Animals and Us* (pp.209-236). Cambridge: Cambridge University Press.
- Bowlby, J. (1958), The nature of the child's tie to his mother. *International Journal of Psycho-Analysis*, XXXIX, 1-23.
- Bowlby, J. (1969). *Attachment and Loss, Vol. 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and Loss, Vol. 2. Separation: Anxiety and Anger*. New York: Basic Books.
- Bowlby, J. (1979/2005). *The making and breaking of affectional bonds*. New York: Routledge.
- Bowlby, J. (1980). *Attachment and loss. Loss: Sadness and depression* (Vol. 3). New

York: Basic Books.

- Bradshaw, M., Ellison, C.G. & Marcum, J.P. (2010). Attachment to God, Images of God, and Psychological Distress in a Nationwide Sample of Presbyterians. *International Journal for the Psychology of Religion* 20, 130-147.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford.
- Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & F. Waters (Eds.), *Growing points of attachment theory and research: Monographs of the Society for Research in Child Development*, 50 (1-2, Serial No. 209), 3-35.
- Bridger, H. (1970). Companionship with humans. In E. Noonan (2008). People and Pets. *Psychodynamic Practice*, 14, 395-407.
- Carr, S. (2011). *Attachment in Sport, Exercise, and Wellness*. London: Routledge.
- Carr, S. & Landau, S., (2012). Consciously identified attachment hierarchies: Cognitive accessibility of attachment figure names as a function of threat primes in a lexical decision task. *Scandinavian Journal of Psychology*, 53, pp. 17-25.
- Colin, V. (1987, April). Infant's preferences between parents before and after moderate stress activates behavior. Paper presented at the meeting of the Society for Research in Child Development, Baltimore.
- Crawford, H.K., Worsham, N.L., & Swinehart, E.R. (2006). Benefits derived from companion animals, and the use of the term 'attachment'. *Anthrozoos*, 19, 98-112.

- Duchesne, S. & Larose, S. (2007). Adolescent parental attachment and academic motivation and performance in early adolescence. *Journal of Applied Social Psychology*, 37, 1501-1521.
- Feeney, J. A., Noller, P., & Hanrahan, M. (1994). Assessing adult attachment: Developments in the conceptualization of security and insecurity. In M. B. Sperling & W. H. Berman (Eds), *Attachment in adults: Clinical and developmental perspectives* (pp. 128–152). New York: Guilford.
- Fine, A. (2000). Animals and therapists: incorporating animals in outpatient psychotherapy. In A. Fine (Ed.), *Animal assisted therapy: theoretical foundations and guidelines for practice* (pp. 179-207). Academic Press: New York.
- Florian, V., Mikulincer, M., & Bucholtz, I. (1995). Effects of adult attachment style on the perception and search for social support. *The Journal of Psychology*, 129, 665-676.
- Fraley, R. C., & Shaver, P. R. (2000). Adult attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4, 132-154.
- Fraley, R. C., & Waller, N. G. (1998). Adult attachment patterns: A test of the typological model. In J. A. Simpson & W. S. Rholes (Eds), *Attachment theory and close relationships* (pp. 77–114). New York: Guilford.
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350–365.
- Gaskins, S., & Paradise, R. (2010). Learning through observation in daily life. In

- Lancy, D. F., Gaskins, S. and Bock, J. (Eds.), *The Anthropology of Learning in Childhood* (pp.85-117). Lanham: Alta-Mira Press.
- Hazan, C., & Shaver, P. R (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 2, 511-524.
- Hazan, C. & Shaver, P.R. (1994). Deeper into attachment theory. *Psychological Inquiry*, 5, 68-79.
- Hazan, C., & Zeifman, D. (1994). Sex and the psychological tether. In K. Bartholomew & D. Perlman (Eds.), *Advances in Personal Relationships: Attachment Processes in Adulthood* (pp. 151-177). London: Jessica Kingsley.
- Keil, C.P. (1998). Loneliness, stress and human-animal attachment among older adults. In C.C. Wilson & D.C. Turner (Eds.), *Companion Animals in Human Health* (pp. 123-134). Sage Publications: Thousand Oaks, California.
- Kobak, R. (2009). Defining and measuring of attachment bonds: Comments on Kurdek. *Journal of Family Psychology*, 23, 447-449.
- Kurdek, L.A. (2008). Pet dogs as attachment figures. *Journal of Social and Personal Relationships*, 25, 247-266.
- Kurdek, L.A. (2009). Pet dogs as attachment figures for adult owners. *Journal of Family Psychology*, 23, 439-446.
- Kwong, M.J., & Bartholomew, K. (2011). "Not just a dog": An attachment perspective on relationships with assistance dogs. *Attachment and Human Development*, 13, 421-436.
- Levinson, B. (1984). Human/Companion animal therapy. *Journal of Contemporary Psychotherapy*, 14, 131-144.
- Marvin, R. S. & Stewart, R. S. (1990). A family systems framework for the study of

- attachment (pp. 51-86). In M.T. Greenberg, D. Cicchetti, and E.M. Cummings (Eds.), *Attachment in the preschool years: Research and intervention*. Chicago: University of Chicago Press.
- Messent, P. (1983). Social facilitation of contact with other people by dogs. In D. Katcher & B. Beck (Eds.), *New perspectives on our lives with companion animals* (p37-46). Free Press: New York.
- Mikulincer, M., Birnbaum, G., Woddis, D., & Nachmias, O. (2000). Stress and accessibility of proximity-related thoughts: Exploring the normative and intraindividual components of attachment theory. *Journal of Personality and Social Psychology*, 78, 509–523.
- Mikulincer, M., Gillath, O., & Shaver, P. R. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology*, 83, 881–895.
- Muschel, I. (1984). Pet therapy with terminal cancer patients. *Social Casework*, 65, 451-458.
- Nedelisky, A. & Steele, M. (2009). Attachment to people and to objects in obsessive-compulsive disorder: An exploratory comparison of hoarders and non-hoarders. *Attachment & Human Development*, 11, 365-383.
- Noonan, E., (2008). People and Pets. *Psychodynamic Practice*, 4, 395-407.
- Parish-Plass, N. (2008). Animal Assisted Therapy with children suffering from insecure attachment due to abuse and neglect: a method to lower the risk of intergenerational transmission of abuse. *Clinical Child Psychology and Psychiatry*, 13, 7-31.
- Peacock, J., Chur-Hansen, A., & Winefield, H. (2012). Mental health implications of

- human attachment to companion animals. *Journal of Clinical Psychology*, 68, 292-303.
- Sable, P. (1995). Pets, attachment, and well-being across the lifecycle. *Social Work*, 40, 334-341.
- Sanders, C. (1999). *Understanding Dogs: Living and working with canine companions*. Temple University Press: Philadelphia.
- Schaffer, H.R. & Emerson, P.E. (1964). The development of social attachments in infancy. *Monographs of the Society for Research in Child Development*, 29 (3, Serial No. 94).
- Serpell, J. (1983). *The personality of the dog and its influence on the pet-owner bond: New perspectives on our lives with companion animals*. University of Pennsylvania Press: Philadelphia.
- Shaver, P. R., Collins, N. L., & Clark, C. L. (1996). Attachment styles and internal working models of self and relationship partners. In G. J. O. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 25-61). Mahwah, NJ: Erlbaum
- Shaver, P. R., & Hazan, C. (1988). A biased overview of the study of love. *Journal of Social and Personal Relationships*, 5, 473-501.
- Shaver, P. R., Hazan, C., & Bradshaw, D. (1988). Love as attachment: The integration of three behavioral systems. In R. J. Sternberg and M. L. Barnes (Eds.), *The psychology of love* (pp. 68-99). New Haven, CT: Yale University Press.
- Shaver, P.R. & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment and Human Development*, 4, 133-161.
- Sonkin, D. (2005). Attachment theory and psychotherapy. *The California*

Therapist, 17, 68-77.

- Stammbach, K.B., & Turner, D.C. (1999). Understanding the human-cat relationship: Human social support or attachment. *Anthrozoos*, 12, 162-168.
- Tomasello, M. (1999). *The Cultural Origins of Human Cognition*. Harvard University Press.
- Trinke, S. J., & Bartholomew, K. (1997). Hierarchies of attachment relationships in young adulthood. *Journal of Social and Personal Relationships*, 14, 603-625.
- Waters, E. (2000). *Notes on attachment as grand theory*. Unpublished manuscript.
- Woodward, L.E., & Bauer, A.L. (2007). People and their pets: A relational perspective on interpersonal complementarity and attachment in companion animal owners. *Society and Animals*, 15, 169-189.
- Zasloff, R.L. (1996). Measuring attachment to companion animals: a dog is not a cat is not a bird. *Applied Animal Behaviour Science*, 47, 43-48.
- Zilcha-Mano, S., Mikulincer, M., & Shaver, P.R. (2011). Pet in the therapy room: An attachment perspective on Animal-Assisted Therapy.
- Zilcha-Mano, S., Mikulincer, M., & Shaver, P.R. (2011). An attachment perspective on human-pet relationships: Conceptualization and assessment of pet attachment orientations. *Journal of Research in Personality*, 45, 345-357.
- Zilcha-Mano, S., Mikulincer, M., & Shaver, P.R. (in press). Pets as safe havens and secure bases: The moderating role of pet attachment orientations. *Journal of Research in Personality*.